USDA, National Agricultural Statistics Service

Indiana Crop & Weather Report

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CROP REPORT FOR WEEK ENDING JUNE 19

AGRICULTURAL SUMMARY

Rainfall amounts varied greatly across the state, limiting field work in many areas, according to the Indiana Field Office of USDA's National Agricultural Statistics Service. Planting of corn is virtually complete at this time. Some acreage intended to be planted to corn will be switched to soybeans or left idle. Farmers continued to plant soybeans as fields dried enough to support equipment. Winter wheat harvest began in a few southern counties and will progress northward as the crop quickly comes to maturity. The wheat crop has sustained some damage from excess moisture this spring. Field work is behind schedule for many farmers as they struggle to find enough time between rain events to spray herbicides and apply nitrogen to their corn acreage.

FIELD CROPS REPORT

There were 4.1 **days suitable for field work**. Ninety-four percent of the intended **corn** acreage has **emerged** compared with 100 percent last year and 97 percent for the 5-year average. **Corn condition** is rated 55 good to excellent compared with 68 percent last year at this time.

Ninety percent of the intended **soybean** acreage has been **planted** compared with 91 percent last year and 92 percent for the 5-year average. By area, 89 percent of the crop has been planted in the north, 92 percent in the central region and 87 percent in the south. Seventy-five percent of the soybean acreage has **emerged** compared with 84 percent for both last year and the 5-year average. **Soybean condition** is rated 56 good to excellent compared with 67 percent last year at this time.

Four percent of the **winter wheat** acreage has been **harvested** compared with 13 percent last year and 12 percent for the 5-year average. **Winter wheat condition** is rated 58 percent good to excellent compared with 68 percent last year at this time.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition improved slightly and is rated 65 percent good to excellent compared with 82 percent last year. **Livestock** were under very little stress due to the moderate temperatures during the week.

CROP PROGRESS

Crop	This Week	Last Week	Last Year	5-Year Avg.
	Percent			
Corn Emerged	94	81	100	97
Soybeans Planted	90	78	91	92
Soybeans Emerged	75	54	84	84
Winter Wheat Harvested	4	NA	13	12
Alfalfa, First Cutting	87	75	81	85

CROP CONDITION

Crop	Very Poor	Poor	Fair	Good	Excel-lent
	Percent				
Corn	2	9	34	43	12
Soybean	3	7	34	46	10
Winter Wheat	3	10	29	46	12
Pasture	1	6	28	50	15

SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK

Soil Moisture	This Week	Last Week	Last Year
	Percent		
Topsoil			
Very Short	0	0	0
Short	3	6	2
Adequate	69	71	46
Surplus	28	23	52
Subsoil			
Very Short	0	0	0
Short	2	3	2
Adequate	69	71	55
Surplus	29	26	43
Days Suitable	4.1	5.2	2.5

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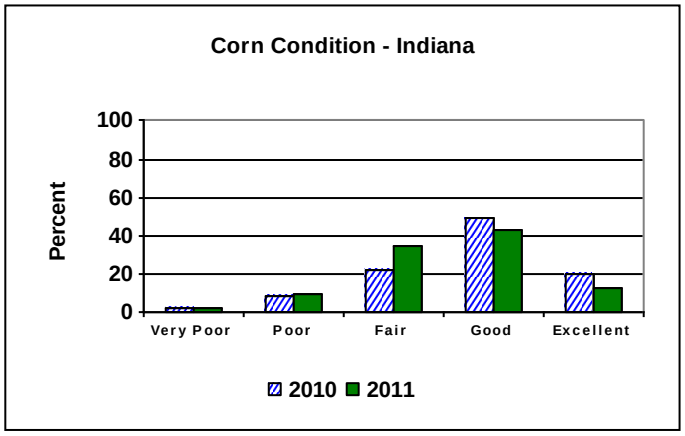
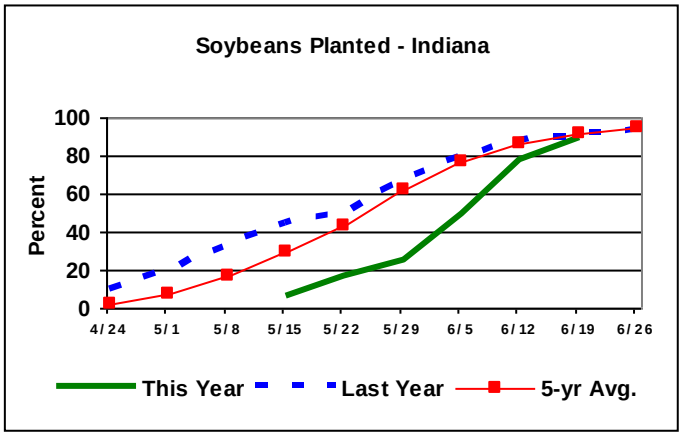
http://www.nass.usda.gov/Statistics_by_State/Indiana/





Other Agricultural Comments And News

Response of Corn to Late-season Nitrogen Application

Written by: Eric Miller, R.L. Nielsen, and Jim Camberato, Agronomy Dept., Purdue University. Published June 15, 2011.

URL:http://www.kingcorn.org/news/timeless/CornRespLateSeasonN.html

Nitrogen (N) fertilizer is a crucial input for maximizing yield and profitability of corn. The expense and environmental impact of N fertilizer has heightened the need for efficient N management practices. A sidedress application of N fertilizer is one option to improve N use efficiency by reducing the risk of N loss prior to plant uptake. However, wet field conditions during times of planned sidedress applications can seriously delay the timing of the application. Thus a concern arises as to the impact of later-applied N on corn yield, profit, and fertilizer N efficiency. In the Eastern Corn Belt, little research has been conducted on the consequences of delayed N application on corn yield and profitability or environmental impacts.

In 2010, we initiated a 13-acre field-scale experiment at the Pinney-Purdue Agricultural Center near Wanatah, Indiana to address these questions. The previous crop was soybean. The trial was planted on April 22 directly following cultivation resulting in an ideal seedbed, excellent seed to soil contact, and good seed germination. Seedlings emerged uniformly and plants developed uniformly throughout the growing season. All plots received an initial 24 lbs N/acre as starter fertilizer during planting.

In this trial, 28% urea-ammonium nitrate was sidedressed at either V7 (defined by 7 visible leaf collars) or V15 growth stages at 0, 40, 80, 120, 160, and 200 lbs actual N/acre. The late N application was intended to occur at V12, but weather and an equipment malfunction delayed the application until V15. A traditional knife injection tool bar was utilized at V7, whereas a Hagie® high clearance sprayer with a mounted coulter-injection toolbar was used at V15. During the 14 days preceding the V15 application, over four inches of rain were recorded at the weather station near this field. However, significant rainfall did not occur until 11 days after the V15 N application.

At silking, total above-ground dry matter and N content was the same whether the corn had received only starter N or starter N plus 200 lbs/ac N at V15. Nitrogen stress was obvious in both treatments with leaves fired up to the ear. The fact that little rainfall had occurred between the V15 application and silking undoubtedly contributed to the lack of response to the extra N by this point in time. Not until four weeks after silking (R4 stage – kernel dough stage) did the corn show evidence of responding to the N applied at V15 in terms of increased aboveground biomass accumulation when compared to the starter-only control.

Total number of ovules (pollinated or not) were counted at growth stage R2 (kernel blister stage). These numbers reflect the potential number of kernels. The number of potential kernels was similar between the V15 and starter-only treatments (Fig. 1). However, potential kernel numbers for both of these treatments were approximately 9% fewer than the V7 treatment. At this point, 20 days after the V15 sidedress application, the V15 sidedress plots showed no visual differences versus plots that received only starter fertilizer.

At physiological maturity, the number of harvestable kernels for the V15 sidedress treatment was only 6% less than for the V7 sidedress treatment, but 28% greater than for the starter-only control (Fig. 1). Kernel weights were nearly identical for the V7 and V15 sidedress treatments. One can conclude that the yield differences among these sidedress treatments were due to a combination of effects that occurred during ear size determination and on kernel survival during grain fill.

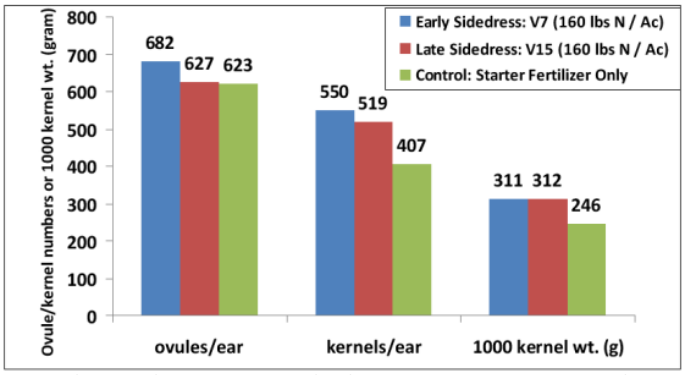


Fig. 1. Influence of timing and rate of N fertilizer on yield components of corn. Starter-only treatments consisted of 24 lbs N / ac. Sidedress rates were in addition to 24 lbs N / ac applied as starter at planting. Pinney-Purdue Ag Center, 2011.

(continued on page 4)

Weather Information Table

Week Ending Sunday, June 19, 2011

Station	Past Week Weather Summary Data							Accumulation				
								April 1, 2011 through June 19, 2011				
	Air Temperature				Precip.		Avg 4 in Soil	Precipitation			GDD Base 50°F	
	Hi	Lo	Avg	DFN	Total	Days	Temp	Total	DFN	Days	Total	DFN
Northwest (1)												
Chalmers_5W	87	52	67	-5	2.64	1		17.78	+7.83	39	824	-57
Francesville	86	52	68	-3	1.93	2		17.03	+7.19	39	812	+24
Valparaiso_AP_I	86	50	67	-3	1.22	3		12.74	+2.25	38	822	+68
Wanatah	88	47	65	-4	1.33	3	72	16.92	+7.05	49	691	-11
Winamac	85	53	68	-3	1.58	5		18.18	+8.34	48	852	+64
North Central (2)												
Plymouth	87	52	67	-5	0.68	2		17.41	+7.13	44	801	-23
South_Bend	85	53	68	-3	2.07	4		18.21	+8.60	44	854	+121
Young_America	86	55	68	-3	2.15	3		18.25	+8.69	36	887	+95
Northeast (3)												
Fort_Wayne	88	56	69	-2	0.55	3		17.74	+8.65	46	957	+184
Kendallville	84	53	67	-4	0.67	3		16.47	+6.96	55	793	+62
West Central (4)												
Greencastle	83	55	68	-5	0.90	3		19.03	+8.27	39	919	-26
Perrysville	86	54	70	-2	1.09	3	76	15.41	+4.84	35	1011	+149
Spencer_Ag	86	48	68	-4	2.28	4		19.70	+8.36	40	997	+136
Terre_Haute_AFB	86	54	70	-3	1.23	4		18.22	+7.68	40	1131	+193
W_Lafayette_6NW	87	54	70	-1	2.11	4	73	18.93	+9.05	42	948	+149
Central (5)												
Eagle_Creek_AP	85	59	71	-2	1.53	3		16.70	+6.87	41	1121	+193
Greenfield	86	55	69	-3	1.47	3		21.31	+10.90	46	1001	+136
Indianapolis_AP	86	59	72	-1	1.96	3		15.84	+6.01	41	1146	+218
Indianapolis_SE	84	54	69	-4	2.19	3		19.47	+9.34	40	965	+63
Tipton_Ag	87	53	69	-2	1.17	3	74	19.70	+9.82	44	925	+168
East Central (6)												
Farmland	87	53	69	+0	1.19	4	77	14.29	+4.31	49	919	+190
New_Castle	86	51	68	-3	0.87	2		22.98	+12.00	38	917	+168
Southwest (7)												
Evansville	88	59	73	-3	4.08	6		24.47	+13.47	39	1372	+228
Freelandville	87	56	71	-3	1.26	4		19.33	+8.06	34	1182	+200
Shoals_8S	88	56	70	-2	2.42	4		22.82	+10.88	32	1097	+157
Stendal	86	57	71	-4	4.14	5		28.31	+15.98	37	1240	+189
Vincennes_5NE	90	56	72	-1	3.63	5	75	21.60	+10.33	34	1219	+237
South Central (8)												
Leavenworth	87	60	72	+0	2.93	4		25.44	+13.42	40	1213	+269
Oolitic	85	56	69	-3	1.86	4	74	23.15	+11.81	41	1019	+139
Tell_City	87	61	73	-2	3.66	4		24.12	+11.95	36	1283	+215
Southeast (9)												
Brookville	88	54	70	-1	0.58	3		20.69	+9.95	40	1046	+246
Greensburg	88	56	71	+1	0.74	2		21.51	+10.37	36	1116	+251
Seymour	85	57	69	-3	2.62	3		24.36	+13.76	35	1034	+134

DFN = Departure From Normal.
GDD = Growing Degree Days.
Precipitation (Rainfall or melted snow/ice) in inches.
Precipitation Days = Days with precip of .01 inch or more.
Air Temperatures in Degrees Fahrenheit.

For more weather information, visit www.awis.com or call 1-888-798-9955.

At harvest, the V15 sidedressed plots yielded 100 bu/acre more than the starter-only control and only 13 bu/acre less than the traditional V7 sidedress timing (Fig. 2). Most of the 13 bu/acre difference in grain yield between the two sidedress timings was due to differences in kernel number per ear at harvest (Fig 1). The agronomic optimum N rates for the two sidedress timings were similar (188 vs 178 for V7 and V15, respectively).

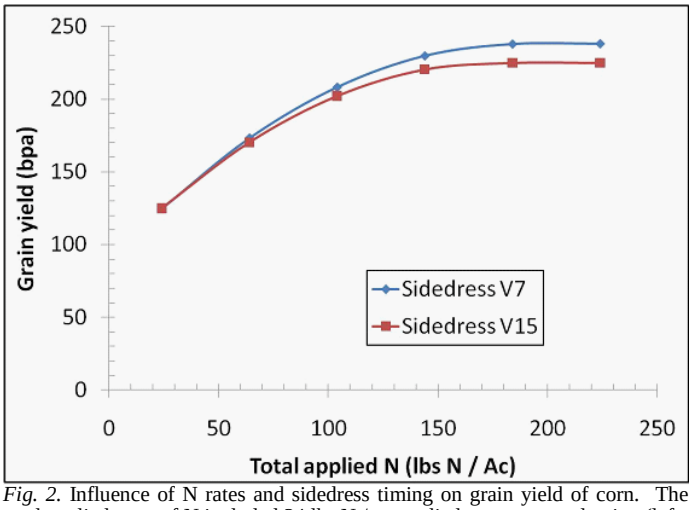


Fig. 2. Influence of N rates and sidedress timing on grain yield of corn. The total applied rates of N included 24 lbs N / ac applied as starter at planting (left-most data point represents only starter fertilizer). Pinney-Purdue Ag Center, 2011.

In 2007, a similar study was conducted at the same location with similar results. Nitrogen fertilizer sidedress-applied at growth stage V13 increased yield 64 bu/acre compared to the starter-only control, but yield was 18 bu/acre less than an earlier V3 sidedress treatment (Emmert, 2009). In both studies, corn plants were visibly N deficient but otherwise healthy due to excellent growing conditions throughout the season. Good uniform stands, healthy plants and established root systems likely contributed to the substantial benefit of N fertilizer applied late in the season.

The results of these studies demonstrate that corn can recover from significant N deficiency stress with applications of sidedress N fertilizer even as late as V13 to V15. In a year when weather can delay field work into unconventional periods of the growing season, options still remain to recover significant yield with late sidedress N applications.

The caveat to these promising results is that when N deficiency occurs due to saturated soils and ponding of fields, the resulting stands of corn are often also compromised due to root damage caused by the excessive soil moisture. Under these more challenging conditions, corn may not respond as strongly to late applied N. Consequently, previous recommendations from Purdue suggested no more than 60 lbs N/acre be applied to severely N deficient corn late during the vegetative period (Brouder and Mengel, 2003).

One last comment we would make regarding sidedress application equipment for late growth stages is that while our trial used a high-clearance applicator equipped with a mounted coulter-injection toolbar, similar high-clearance applicators equipped with drop nozzles could also be used with minimal risk of N loss by volatilization within a closed crop canopy. One should take care to weight the drop nozzles to minimize their swaying and bouncing and, thus, minimize the amount of liquid N splashed on plant tissue that would cause significant leaf damage. Dribbling liquid N on the soil surface in this manner would also be more dependent on soil moisture or subsequent rainfall to move the N into the soil for plant uptake.

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